

**REMARKS**

The Examiner's indication of allowable subject matter noted with appreciation.

Claims 1-59 are pending in the application. The elected claims have been amended to improve claim language. New claim 59 readable on the elected species/invention has been added to provide Applicants with the scope of protection to which they are believed entitled. The amended/new claims find solid support in the original specification and drawings, especially elected FIGs. 1-4, FIGs. 25a-25b and the corresponding text on the specification. No new matter has been introduced through the foregoing amendments.

The Examiner's decision to make the Restriction Requirement final is noted. The non-elected claims have been identified as "withdrawn" but remain pending for rejoinder and consideration upon allowance of one or more of generic/linking claims 1, 43-46, and 58.

The 35 U.S.C. 112, second paragraph rejection of claim 5 is believed overcome in view of the above amendments.

The art rejections relying primarily on *Link* are noted. Although Applicants do not necessarily agree with the Examiner's position, amendments have nevertheless been made solely for the purpose of expediting prosecution.

In particular, independent claim 1 now recites:

1. A system for providing zone-based personalized information to a user of a mobile communication terminal located in a specific zone among a plurality of zones within a cell serviced by a base station of a cellular network, said system:

a plurality of zone management systems each installed in one of the zones within said cell for acquiring a MIN (Mobile Identification Number) information of the mobile communication terminal entering the respective zone;

a zone information management server that receives the MIN information and zone identification information of the specific zone where the mobile communication terminal is located from the zone management system of said specific zone, requests location registration of the terminal to a home location register (HLR), and retrieves transmission information to be transferred to the terminal according to the MIN information and the zone identification information; and

an SMS (Short Message Services) server that receives the transmission information and the MIN information from the zone information management server, gets location information of the terminal corresponding to the MIN information from the HLR, and transfers the transmission information and the MIN information to the base station of the cell where the terminal is located according to the location information. (emphasis added).

The claimed invention is, therefore, directed to a zone-based information providing system which relies on multiple zone management systems (ZMS) in multiple zones within the cell of a cellular base station to detect the presence of mobile terminals and provide information for the detected mobile terminals. Since multiple zones/ZMSs are provided within each cell, the claimed system has a higher “resolution” than the conventional cell-based system disclosed in the Background Art section of the instant application, and hence, implementations of the claimed invention can provide better zone-specific information than the conventional cell-based system.

For example, in the conventional cell-based system, the cell of a cellular base station can cover the whole shopping center. The convention cell-based system can detect when a mobile terminal enters the shopping center. However, it cannot detect whether the mobile terminal is located near a particular store. Therefore, the conventional cell-based system can only at best provide information related to the entire shopping center, rather than information related to the particular store where the user of the mobile terminal is currently located.

In contrast, embodiments of the claimed invention can detect not only the presence of a mobile terminal at the shopping center, but also its presence near a particular store if the ZMS of

the zone covering that particular store picks up the mobile terminal's identification. Therefore, embodiments of the claimed invention can provide information specific to the particular store near the user of the mobile terminal which is more effective than the general shopping-center related information of the conventional cell-based system. As the mobile terminal moves to another store in another zone within the same shopping center, new information related to that another store can be advantageously sent to the mobile terminal.

Having discussed the distinctions between the claimed zone-based system and the conventional cell-based system, Applicants respectfully submit that *Link* discloses no more than a cell-based system, fails to teach or suggest multiple ZMSs/zones in the cell of a base station, and cannot achieve numerous advantages of embodiments of the claimed invention as exemplarily outlined above. The cell-based nature of *Link* is apparent from FIG. 1A of the reference where only one zone (the cell itself) is present in each cell, and only one ZMS (cell control) is installed in the cell. The reference should suffer from the "low resolution" disadvantage discussed above and cannot render the claimed invention obvious.

The deficiency of *Link* is not deemed curable by the teaching reference(s), and therefore independent claim 1 is patentable over the applied art of record.

Independent claim 44 includes features similar to claim 1, and should be considered patentable for at least the reasons detailed above with respect to claim 1.

The dependent claims, including any new claim(s), are considered patentable at least for the reason(s) advanced with respect to the respective independent claim(s).

As to claim 43, Applicants respectfully disagree with the Examiner's obviousness rationale. IoT should be noted that the *Link* ZMS (i.e., cell control 13b) is associated with the base station (cell tower 16b) as best seen in FIG. 1A, and cannot be modified to cover only 2-50 m in radius as presently claimed. The *Link* cell control 13b must have the same coverage as the associated cell

tower 16b. It would not have been obvious to reduce the coverage area of the cell control 13b, and hence the cell tower 16b, to only 2-50 m in radius since cellular coverage would also be disadvantageously limited.

Claim 43 is thus patentable on its own merit.

As to new claim 59, *Link* does not teach or suggest that “said installing comprises connecting the zone management systems to the zone information management server via a computer network, without directly connecting the zone management systems to the base station.” *Link* discloses the opposite structure in which the zone management system (i.e., cell control 13b) is directly connected to the base station (i.e., cell tower 16b) as best seen in FIG. 1A of the reference.

Further, *Link* does not teach or suggest that “the MIN information is transmitted from the zone information management server to the HLR via, at least partially, the computer network, without being transmitted by the base station.” In *Link*, the MIN information must be sent by the base station (i.e., cell tower 16b) since there is no other way to transmit the MIN information from cell control 13b to the outside.

Claim 59 is thus patentable on its own merit.

Each of the Examiner’s rejections has been traversed. Accordingly, Applicants respectfully submit that all claims are now in condition for allowance. Early and favorable indication of allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant’s attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such

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deposit account.

Respectfully submitted,

LOWE HAUPTMAN HAM & BERNER, LLP

/Yoon S Ham/

Yoon S. Ham

Registration No. 45,307

1700 Diagonal Road, Suite 300

Alexandria, Virginia 22314

(703) 684-1111

(703) 518-5499 Facsimile

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YSH/KL/jr